

S/N 10/583,681

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FILE 'HOME' ENTERED AT 16:10:53 ON 14 JUN 2007

=> set plurals on perm
SET COMMAND COMPLETED

=> set abbr on perm
SET COMMAND COMPLETED

=> file uspatall caplus japio
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'USPATFULL' ENTERED AT 16:11:31 ON 14 JUN 2007
CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 16:11:31 ON 14 JUN 2007
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FILE 'CAPLUS' ENTERED AT 16:11:31 ON 14 JUN 2007
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FILE 'JAPIO' ENTERED AT 16:11:31 ON 14 JUN 2007
COPYRIGHT (C) 2007 Japanese Patent Office (JPO)- JAPIO

=> s cyano(1w)dithiocarboxylic(2w)ester###
L1 1 CYANO(1W) DITHIOCARBOXYLIC(2W) ESTER###

=> d l1 1 ibib abs

L1 ANSWER 1 OF 1 USPATFULL on STN
ACCESSION NUMBER: 2007:101291 USPATFULL
TITLE: Low odor chain transfer agents for controlled radical polymerization
INVENTOR(S): Benicewicz, Brian, Loudonville, NY, UNITED STATES
Li, Chunzhao, Troy, NY, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007088140	A1	20070419
APPLICATION INFO.:	US 2004-583681	A1	20040527 (10)
	WO 2004-US16718		20040527
			20061218 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-474538P	20030530 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	

S/N 10/583,681

LEGAL REPRESENTATIVE: HESLIN ROTHENBERG FARLEY & MESITI PC, 5 COLUMBIA
CIRCLE, ALBANY, NY, 12203, US

NUMBER OF CLAIMS: 18

EXEMPLARY CLAIM: 1

LINE COUNT: 754

AB The present invention relates to low odor α - cyano-
dithiocarboxylic ester compounds of formula I for use
as chain transfer agents in free radical polymerizations, and
polymerization processes employing them: ##STR1## wherein

R.sup.1 is selected from alkyl, substituted alkyl, heteroaryl, substituted
heteroaryl, alkylaryl, substituted alkylaryl, aryl, substituted aryl,
alkoxy, aryloxy, thioalkyl, thioaryl, substituted thioalkyl, substituted
thioaryl, secondary amino and tertiary amino;

R.sup.2 is selected from alkyl, aryl, substituted aryl, heteroaryl, substituted
heteroaryl, and COOR.sup.3; and

R.sup.3 is alkyl.

=> s cyano(3w)dithiocarboxylic(2w)ester###

L2 1 CYANO(3W) DITHIOCARBOXYLIC(2W) ESTER###

=> s cyan?(3w)dithiocarboxylic(2w)ester###

L3 3 CYAN?(3W) DITHIOCARBOXYLIC(2W) ESTER###

=> d l3 1-3 ibib abs

L3 ANSWER 1 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2007:101291 USPATFULL

TITLE: Low odor chain transfer agents for controlled radical
polymerization

INVENTOR(S): Benicewicz, Brian, Loudonville, NY, UNITED STATES
Li, Chunzhao, Troy, NY, UNITED STATES

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NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1	
LINE COUNT:	754	

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dithiocarboxylic ester compounds of formula I for use
as chain transfer agents in free radical polymerizations, and
polymerization processes employing them: ##STR1## wherein

R.sup.1 is selected from alkyl, substituted alkyl, heteroaryl, substituted
heteroaryl, alkylaryl, substituted alkylaryl, aryl, substituted aryl,
alkoxy, aryloxy, thioalkyl, thioaryl, substituted thioalkyl, substituted
thioaryl, secondary amino and tertiary amino;

R.sup.2 is selected from alkyl, aryl, substituted aryl, heteroaryl, substituted
heteroaryl, and COOR.sup.3; and

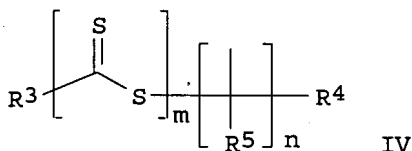
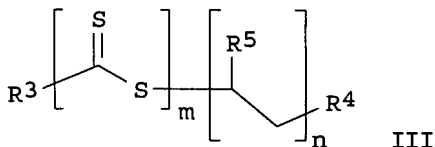
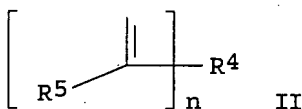
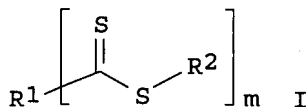
S/N 10/583,681

R.sup.3 is alkyl.

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:123624 CAPLUS
DOCUMENT NUMBER: 136:167802
TITLE: Dithiocarboxylic ester synthetic process
INVENTOR(S): Benicewicz, Brian C.; Kanagasabapathy, Subbareddiar;
Sudalai, Arumugam
PATENT ASSIGNEE(S): Rensselaer Polytechnic Institute, USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002019554	A1	20020214	US 2001-877455	20010608
US 6458968	B2	20021001		
PRIORITY APPLN. INFO.:			US 2000-210517P	P 20000609
OTHER SOURCE(S):	MARPAT	136:167802		

GI



AB A process the preparation of a dithiocarboxylic esters comprises reacting a carboxylic acid compound $R1(COOH)_m$, $R2AH$, and phosphorus pentasulfide to produce a compound of structure (I), wherein $R1$ = m-valent radical selected from alkyl, substituted alkyl, aryl, substituted aryl, heteroaryl, and substituted heteroaryl, $R2$ = alkyl, substituted alkyl, aryl, substituted aryl, heteroaryl, and substituted heteroaryl, $A = S$ or O , and m = an integer 1-6. An alternate process comprises reacting $R3(COOH)_m$ and a compound of structure (II) in the presence of a clay catalyst; and treating products of the reaction with a thiating agent to produce a compound of structure (III), a compound of structure (IV), or a combination of compds. of III and IV, wherein $R3$ = n-valent radical selected from alkyl, substituted alkyl, aryl, substituted aryl, heteroaryl, and substituted heteroaryl, $R4$ = alkyl, substituted alkyl, aryl, substituted aryl, heteroaryl, and substituted heteroaryl, $R5 = H$ or lower alkyl, $A = S$ or O , and m, n = independently integers 1-6 with when $m > 1$, $n = 1$ and $n > 1$, $m = 1$. This class of compds. may be used as chain transfer agent for RAFT

polymerization

Thus, benzoic acid 1.22, benzyl mercaptan 1.24, and phosphorus pentasulfide 4.44 g in 40 mL toluene were refluxed for 10 h to give benzyl dithiobenzoate.

S/N 10/583,681

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1972:14419 CAPLUS

DOCUMENT NUMBER: 76:14419

TITLE: 2,2'-Iminobis(benzothiazole) from cyanoimido
-dithiocarboxylic acid esters

AUTHOR(S): Neidlein, Richard; Reuter, Hans

CORPORATE SOURCE: Pharm.-Chem. Inst., Univ. Karlsruhe, Karlsruhe, Fed.
Rep. Ger.

SOURCE: Synthesis (1971), (10), 540-1

CODEN: SYNTBF; ISSN: 0039-7881

DOCUMENT TYPE: Journal

LANGUAGE: German

GI For diagram(s), see printed CA Issue.

AB (MeS)2C:NCN in EtOH is treated with o-HSC6H4NH2 to prepare
2,2'-iminobis(benzothiazole) (I, R = H). This is treated (in dioxane)
with Na and MeI or an analogous compound to prepare I [R = Me, CN, CH2CO2Et,
allyl, C(S)Cl, or CH2Ac]. 2-Amino-5-methylbenzenethiol-HCl is added to Na
in EtOH and then treated with (MeS)2C:NCN to yield 2,2'-iminobis(6-
methylbenzothiazole) as the acetate. 2-Cyanoimino-3-methylbenzothiazoline
in EtOH is refluxed with o-HSC6H4NH2 to prepare
2-(2-benzothiazolylimino)-3-methyl-benzothiazoline.

=> d 13 2 hit

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

IT 62-23-7, 4-Nitrobenzoic acid 65-85-0, Benzoic acid, reactions 79-09-4,
Propionic acid, reactions 80-62-6, Methyl methacrylate 98-83-9,
α-Methylstyrene, reactions 98-91-9, Thiobenzoic acid 100-09-4,
4-Methoxybenzoic acid 100-42-5, Styrene, reactions 100-51-6, Benzyl
alcohol, reactions 100-53-8, Benzyl mercaptan 107-03-9, 1-Propanethiol
108-98-5, Thiophenol, reactions 455-24-3, 4-(Trifluoromethyl)benzoic
acid 456-22-4, 4-Fluorobenzoic acid 592-41-6, 1-Hexene, reactions
619-65-8, 4-Cyanobenzoic acid 622-97-9, p-Methylstyrene
1314-80-3, Phosphorus pentasulfide

RL: RCT (Reactant); RACT (Reactant or reagent)
(dithiocarboxylic ester synthetic process)

=> log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
34.92	35.13

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-1.56	-1.56

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<input type="checkbox"/>	L2	(558/238)![CCLS]	94
<input type="checkbox"/>	L1	(526/220)![CCLS]	698

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